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# Teaming: Advantages and Implementation

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**Kevin Van Gheem**



Submitted in partial fulfillment of the
requirements for the degree of
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AUGSBURG COLLEGE
MINNEAPOLIS, MINNESOTA

2009

# Abstract

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September 6, 2009

Leadership Application Project (EDC 585)

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MASTER OF ARTS IN EDUCATION
AUGSBURG COLLEGE
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# CERTIFICATE OF APPROVAL

This is to certify that the **Leadership Application Project** of

Kevin Van Gheem

has been approved by the Review Committee, and fulfills the requirements for the Master of Arts in Education degree.

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# Dedications:

I would like to thank Amy, Logan, and Charlie for their support, encouragement, and patience. Amy, you inspire me to dream big and have shown me that through hard work and determination, I can obtain those dreams. Thank you.

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# Introduction

Teaching for four years, I have first-hand experience of what it is like teaching in two distinctly different types of classrooms. My first year was difficult as I was often alone in my room with little guidance or help from fellow teachers. The following three years, our school began to implement teaming and I began to see the benefits of it right before my eyes. This paper will examine some of the benefits for students, parents, and teachers. It will also discuss different types of teams or professional learning communities that can exist in a school. And finally, this paper will look at the beginning of a team and a cross-curricular project to determine if the benefits described really can be seen on our team.

## First Teaching Experience

In a traditional middle school setting, placing students on teams would be something new and exciting, but very much against the routine. Normally in seventh through ninth grade middle schools, students would jumble from class to class, subject to subject, with little student-teacher interaction and very few classes shared with the same peers. Every room in the school is a different subject taught by a different teacher. There seems to be very little cohesiveness between these classes and these teachers, regardless of the subject material. Even though many teachers teach the same course many times a day; in reality, they easily could be teaching different classes. Every teacher teaches their material in

their own way and although there may appear to be connections from one subject to the next, rarely is this connection ever brought to the forefront of his or her teaching. Only the student by their own admission can piece together these connections from one subject to the next. Each teacher traditionally teaches in isolation as if they were secluded in their own kingdom and no other teacher is allowed access. There is a comfort to teaching in isolation. Each teacher sets their own pace, sets their own rules, and determines what will be taught and how it will be presented. Each teacher is their own King or Queen of their very own kingdom. This sums up my experience that I had my first year of teaching. I was on my own—in my own room, with my own students, and teaching my own subjects. I was new to the profession and thus had to come up with materials on my own on a regular basis with little to no counsel and conferences between my colleagues.

## Reviewing my Lesson Plans

As my first year was coming to a close, a reoccurring thought continued to cycle through my mind. How can I be a better teacher for my students? How can I get them to learn and comprehend the material more completely? I wracked my brain and came up with a few new lesson plans, but I felt that I was not getting at the pure essence of teaching. Like a gardener that trims overgrown bushes to be more appealing to the observant eye, I felt that I was just trimming my repertoire of lesson plans. Throughout my first year, I would take notes on the different

lesson plans that I had. Some lessons were effective at teaching a concept for the students; whereas others were less than ideal or did not work at all. So like the gardener, I began to trim out those lessons that did not work or I would modify the lesson to be better taught or presented to my students. As I worked on these lesson plans, I also attended a Solution Tree Institute conference entitled, "Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement," over the summer that shed some new light on my thinking. The keynote speaker, R. DuFour, mentioned that we need not focus our classrooms on teaching, but rather on learning. He mentioned that we need only to look at almost any school's mission statement for this simple and yet profound insight into our teaching (R. DuFour, personal communication, June 28, 2007).

## Standard School Mission Statement

"The mission of Jordan School District is to serve students by providing opportunities for them to realize their potential as contributing citizens and life-long learners" (Jordan Board of Education, 2008). At first glance, this mission statement appears like any other mission statement that students, parents, teachers, and other district personnel have read thousands of times before. But I would like to point out one key word that is used. That word is "learners." It points out that we need to prepare students to be life-long learners. As educators, we need to ensure that students are not just presented the material required for them, but we need to inform students how they can gather useful information and

resources on their own. This also means that teachers must present material to students in such a way that they can understand and comprehend it, so that the students can further their own inquires about the material outside of school. On top of that, teachers can not just present the material in a way that is convenient to the own desires or lack of efforts. In addition, this conference opened my eyes that teachers must also educate students in the tools on how they can learn on their own, where they can look to find the answers to their questions, how they can become informed in their lives, how they can use their knowledge to better their own lives, and how they can utilize their knowledge to help and aid others.

Many mission statements for a variety of levels of schooling include that phrase, "life-long learners," but many schools, like the one mentioned above, omit the need to prepare teachers to present their material in effective teaching practice so that every lesson is absolutely perfect. Nowhere in the mission statement does it mention that we need to focus our efforts on teaching and that we need to perfect teaching in every way. As I thought about the phrase, "life-long learners," I realized I needed to refocus and rethink my teaching philosophy. I need to get away from the thought that I need to obtain and teach the perfect lesson plan every day and instead get into the thought that I need to find the best way for my students to understand and comprehend the material. It is a pretty profound insight and one that I am sure will make me a better teacher. As I ponder this thought, questions begin to form in my mind. How do I go about altering my teaching to focus more on student learning and get away from how to be a perfect teacher? Where is the best place to start? How am I sure that the

students are learning and that I am not just teaching? What is the best environment for students to learn in? How do I ensure that the students are making connections between the material and their own lives? How do I guarantee that the students are making connections between different subjects? How do I guarantee they will acquire the skills needed for them to become life-long learners?

## Professional Learning Communities

At this conference, R. DuFour and the other speakers that I listened to all were discussing the benefits to professional learning communities. A professional learning community (PLC) is a group of teachers that congregate to form a collaborative culture where lessons, curriculum, and students can be openly discussed (Solution Tree website). Teaming is one aspect of PLC, but any group of teachers that meet to discuss school, curriculum, or student improvement is a PLC. DuFour and R. Eaker argue in their paper, PLC at Work, that research shows that the most effective schools develop a school culture where high levels of learning is the primary goal for all students and for teachers to continue their own learning as well. Thus there will be a natural commitment by all school staff and students that everyone is capable of and needs to grow, learn, and develop constantly. The PLC fosters this school culture and appears to answer my questions from above. But to fully answer these questions, I would like to implement the practice firsthand so that I would have a better way to determine if

the idea of teaming is an effective, positive concept for both teachers and students. Thus our school decided to utilize the teaming concept in the 7th grade. We would combine two English teachers, a history teacher, and a science teacher to form a PLC and team only a portion of the 7th grade class. At first glance, this idea of teaming students was new and exhilarating. Here is an opportunity to implement teaming that will benefit teachers and students; but since it was new to us all; where should we begin? Is there more data than this one source at the conference to back up these claims? Is there a how-to guide that we should follow step-by-step so that we can experience the most benefits in the shortest interval of time? Below is my literature review that outlines some of the aspects of teaming. Included in this paper is a project that my team conducted to determine if teaming is a success after only one year of implementation. I will conclude my paper with a discussion on the effectiveness and drawbacks of teaming for our school after only one year.

# Literature Review

## Structure of Teaming in Education

A team, as defined by Webster's dictionary, is a number of persons associated together in work or activity (Merriam-webster.com online dictionary, 2009). Teams or professional learning communities (PLC) can have multiple

different combinations of teachers and students that will make up the team. Regardless of the type of team that is formed in schools, the teams should be as small as possible (Jackson and Davis, 2000). Research has shown the effectiveness of small team sizes in promoting improved academic achievement (Flowers et al., 2000). I will examine in more detail some of the different types of teams that exist in schools.

*Grouped Based on Common Theme or Subject* A team can consist of grouping students together based on something they all have in common. For instance, students can be grouped based on their interests or a common theme or subject material (David, 2008). This is a trend for forming smaller learning communities within larger schools or even dedicating the common theme or subject for the entire school. An example of this type of teaming, where all the students have a similar interest in a particular field or subject, can be found in Apple Valley, Minnesota. The School of Environmental Studies, which is comprised of about 400 students, is unique due to the fact that it is located on the grounds of the Minnesota Zoo. Students that are enrolled here all share a particular interest in researching animals, learning from zoo officials, and experiencing a sense of a small learning community and a feeling of connectedness with the other students (Raywid, 2006).

*Grouped Based on Grade Levels* Teams can be constructed based on grade levels where multiple grade levels would be working with each other. This

is called vertical teaming, where teachers from different grade levels work together to achieve a specific goal (Bertrand, Roberts, and Buchanan, 2006). An example of this type of teaming would be the Science department meeting to discuss essential concepts that must be learned by the students from different grade levels. This would allow ninth grade level teachers to ensure that a specific topic will be covered in the lower grades. For instance, an eighth-grade teacher that needs to instruct students about different elements that can be found in the earth's crust needs to be sure that they understand the structure of an atom. So in this team, the eighth-grade teacher will work with the seventh-grade teacher to ensure that the structure of the atom is taught in such a manner that the students will learn, understand, and retain the material for the following year. Together they can implement different teaching techniques and generate new, useful, invigorating and thought-provoking lesson plans to ensure that the students are able to understand and comprehend the material so less time needs to be devoted to it in upper grades. It also allows for colleagues to work together to create camaraderie and friendship within the department.

*Grouped Based on Looping* Looping is another kind of professional learning community. In this example of teaming, a team will remain with the same group of students for more than one year. This will allow teams to eliminate beginning of the year tasks, like introducing classroom rules and procedures, as the students get to know their teacher. It also ensures that the teacher is familiar with the different students' social and academic backgrounds (Rottier, 2000).

Furthermore, teachers will be familiar with students' achievement levels and will know what degree of work each student is capable of completing or turning in for a grade.

*Grouped Based on One Grade Level and Multiple Subjects* Another type of professional learning community is based on having students from one grade level and grouping different subjects together. This type of team can consist of as few as three teachers to as many as six teachers from four or five different content areas (Gable and Manning, 1999; Hackmann, 2002; Merenbloom, 1996). One or more specialists, like a speech therapist or learning disabilities teacher, may serve on the team as well (Gable and Manning, 1999). So according to Gable and Manning, the number of teachers can be expanded or lessened depending on a multitude of factors, such as which subjects will be on the team, how many teachers will make up the team, and if other school specialists are needed on the team. An example of this is having seventh graders share classes with the same students for their Language Arts, Science, and History courses. I mention this example of team with three different subject areas since it is the kind of professional learning community that was created within the school where I work and from where I will be obtaining my data.

At my school, it was determined that the educators on this professional learning community would include four teachers from the three different subject areas. In this way, we would be able to generate a few cross-curricular lessons that would reach two or all three of the subject areas. The two English teachers

would teach language arts and reading and have the same students for two hours a day throughout the entire school year. The other two members of the team would be 7th Integrated Science and Utah History. Both of the science and history classes are only a semester long and students would alternate their semesters between the two subjects. Thus one English teacher's students would all have science one semester and then history the next semester. And as a science teacher, I had the privilege of working solely with one English teacher the first semester and then solely with the second English teacher the second semester.

## Goals for Teaming

Regardless of how a team looks or what subjects or grade levels are on the team, there are some common goals that need to be established for the team to work properly. Goals that must be looked at, discussed, and implemented for a team to function properly and to obtain positive results include the following items: improving students' self-concept, building a learning community, increasing parent commitment and involvement, improving student attendance, decreasing discipline problems, providing more opportunities for hands-on instruction, instituting an integrated approach to curriculum, increasing students' ability to work in cooperative learning groups, incorporating a variety of learning styles, and fostering student creativity (Hopping, 2000). This list is quite extensive and covers a broad array of ideas. But each plays a vital role for the effectiveness of a team. Through this literature review, I will delve deeper into

these goals to explain the need for them for a team to be a positive experience to both students and teachers.

## Benefits of Teaming for Students

*Safety and Comfort* The optimal school atmosphere would include student-friendly features, such as the classroom environment geared towards the needs of the students. Also includes the teachers' instructional style, classroom organization, and curriculum that are inclined towards the students' needs and desires (Tickett, 1978). Students would feel more comfortable and safe in an environment that has a group of teachers on a team that meet these student-friendly features. The foremost responsibilities of a learning community are to address and meet the physical, intellectual, social/emotional, and moral developmental needs of their students (Merenbloom, 1996). Teaming may allow students to have teachers with similar instructional styles, similar classroom organization, and cover similar materials during their cross-curricular lessons. By having similar material presented to students for more than one class per day, students have a comforting school climate where they feel safe and relaxed. This safe feeling allows students to focus on learning and not on the other social issues in which these students are faced with every day of their lives.

*Same Teachers throughout the Day* A social aspect that most students face is a totally different class schedule than from what they have experienced

their entire academic lives thus far. Middle and secondary grade students move from class to class throughout the day and are confronted with classes that feature multiple sets of peers, shorter contact time with one teacher, contact with many different educators and fluctuations in rules and instructional routines across their classes and teachers (Felner, Farber, and Primavera, 1980). Students go from an elementary school where they typically have a single teacher throughout the day to a middle school where they are bombarded with a lot of different social and classroom issues. In elementary school, since the teacher has students for the entire day, he or she gets to really know and understand each student very well. In addition, the student has a clear understanding of the expectations of that single teacher. These expectations range from what the student should do when they miss a day or several days of school to how they can get help easily if needed to where to sit down for class to where to turn in their completed assignments. In addition, students will be very knowledgeable in understanding the teacher's late work policy, the classroom atmosphere, and the comfort of dealing with a single adult that cares for them. Teams that have multiple subjects can continue these classroom practices. So even though they will have different teachers, they can have the same sets of rules for each of their classes. The student has more continuation, which can lead a better sense of security as bridges are created that connect the elementary and middle schools (MacGregor and Matthews, 1994). Thus a students' self-concept is able to be improved in a safe environment that has the continuation of the same teachers throughout their school day.

*Feeling of Family and Community* Graduation from elementary school sends the student onto the next level of public education, which is the middle school. Multiple elementary schools feed into a single middle school and thus students are faced with discovering new friends and trying to keep their old friends. Mix in the fact that these students are entering into adolescence, where their minds and bodies are changing, and students are almost forced into a sense of insecurity and doubting themselves. Adding to that insecurity and doubt is the fact that these students must now learn all of their teachers' nuances and expectations. Almost every class can have different set of rules from gum chewing to listening to music to how to use the hall pass. Late work policies and where to turn in work varies from classroom to classroom. Classroom behavior, where to sit, and what to do when they enter the classroom is all different from teacher to teacher. Since they only see the teacher for about an hour a day, it may appear that the teacher does not care about them or even knows their name for the first couple of weeks. It can be very overwhelming to students as they enter into this new stage in life. Gone are the comforting days of a single teacher, where a teacher can aid a student in some of these complex issues. Now they must enter into a life with many classrooms, many new peers, and multiple teachers. Now students have to be more responsible for their own work, actions, and behaviors. With all that these students must face, schools turn to teams to help ease that transition from elementary school to middle school. Schools that feature small groups or teams create strong support for middle school-age students and their teachers, allow for flexible class time, provide a better method for instruction and

create opportunities to make viable connections across various subject areas (Clark and Clark, 1997). Through these learning communities, teachers and students can develop more supportive and caring relationships that will benefit not only the student on their transition into middle school, but also to the teachers of these students (Williamson, 1996). Teams provide a feeling of family and community to all of its members (Merenbloom, 1996).

Creating teams allow students to interact with the same peers in their classes and thus create this small learning community that Clark and Clark mention as a benefit. For instance, the students will have the same rules, practices, and policies to follow in their teamed teacher's classrooms. Seeing the same faces from class to class will help limit or even eradicate competition among individuals and increase the energy and desire necessary for better learning (Oswald, 1996). Having a positive atmosphere in the classroom and smaller focus groups formed through interdisciplinary teams directly influences the psychosocial development and indirectly influences student achievement (Epstein, 1981). Schools that form teams allow smaller communities to form within the school, which in turn will foster supportive and positive relationships among students (Jackson and Davis, 2000). These three statements are just the tip of the iceberg when it comes to how students can benefit from these smaller community teams. They will have better relationships among their peers and also with their teachers. And teachers will use cross-curricular lessons to demonstrate how the material students need to know is not just subject-specific. Cross-curricular activities can also lessen the homework load that these students will be faced with

in middle school. But most of all, as Oswald mentions, teams lessen competition between the students, which will allow them to focus more on their own understanding and aid others in their understanding. Less competition also allows students to look more at their own self-confidence and well-being, which can be difficult enough on its own given their ages as they are going through adolescence.

*Cross-Curricular Activities* Cross-curricular teaming is another benefit for students. Teams integrate subject material from multiple subject areas but can focus on one topic. For instance, a topic of innovation can be approached from a Science class through technological breakthroughs, approached from an English class through an inspirational short story, and approached from a History class through exploration of new worlds. Teams are able to integrate one topic from multiple subject areas that gives students exposure to that topic from multiple angles. As a student is exposed to that topic more and more throughout their day, they can obtain a better grasp on the material. Also, a student who in the past may excel in History and struggle with Science, now is able to see connections from one subject area to the next and thus become more knowledgeable in both subjects. Regardless of the type of student, the more exposure of a topic from multiple subject areas a student has, the more likely there will be an increase in student understanding and comprehension of that topic. Several studies provide evidence that the construction of teams can contribute to increased educational

achievement and attainment (Crain, Heebner, & Si, 1992; McMullan, Sipe, & Wolfe, 1994; Robinson-Lewis, 1991).

*Teaming Equates to Greater Student Achievement* There was a massive study on the effects of middle school restructuring and student outcomes performed under the direction of Robert Felner at the University of Illinois. The study involved over 25,000 students throughout 52 schools. From this study, the researchers found a direct correlation between increasing the amount of implementation of students on teams and the students' successes in mathematics, language and reading, based on standardized test scores (Felner et al., 1997). A different study performed by Lee and Smith, they found that in schools that utilized more teaming, students scored higher on math and reading standardized achievement tests. They also discovered that learning communities distribute higher achievement scores and they noticed a higher level of engagement by the students as compared with students that are not in a team setting (Lee and Smith, 1993). Ashton and Webb concluded from their studies that teachers' effectiveness, which has been shown to improve though teaming, was associated with higher student achievement in language arts and mathematics (Ashton and Webb, 1986). These studies show improved student achievement for those students involved with teaming at their schools.

*Variety of Teaching Methods* As teachers strive to improve understanding and comprehension through cross-curricular activities, they also need to examine

their teaching styles, strategies, and practices to ensure that all students are able to learn. More stress on academics is not better unless it accompanied by attention to the total child. The focus should be on how well a student has learned and how much a student has comprehended and not on the time spent on specific topic (Hopping, 2000). Thus teachers need to implement a variety of teaching methods to encompass all the different learning styles within their classroom. Gardner has defined that the human mind has a combination of eight different intelligences and that every individual is composed of certain intelligences that are more dominant than other intelligences (1983, 1993). Just as no two people look exactly alike, so to are no two people entirely the same in the composition of the amount of which intelligences they have that are dominant or inferior (Gardner, 2004). As educators, the team members need to develop lessons that will encompass multiple intelligences to ensure that their students are learning, comprehending, and retaining the information needed for them to succeed. More students will be able to learn more effectively; if the lessons, assessment, and curriculum are presented in their preferred manner of how they would like to be taught (Gardner, 2004).

*Teachers Provide Positive Influence* Proficient and engaging lesson plans take time to come to fruition and need to be thought out and planned. Teachers on these small learning communities need to meet regularly and plan for instructional strategies to best meet their team's needs. During these meetings, they can also establish behavioral expectations, coordinating test and homework,

and conduct parent conferences, if needed (Erb, 1997). According to research by Ashton and Webb, teachers on teams believed that they were a positive influence on their students' lives. Whereas teachers in departmentalized situations; felt that they would not have a lasting impact in their students' lives. These learning communities offer a more positive experience for the students. Ashton and Webb concluded that the teams' positive atmosphere made a positive impact on the students' attitudes, behavior, and academic achievement (Ashton and Webb, 1986). Two more researchers, Lee and Smith, found that students in teamed settings were more engaged in the learning process and were less bored in their classrooms. They discovered that there were fewer students tardy for their classes, students completed their homework more often and students were more likely to bring their proper materials to their classes (Lee and Smith, 1993). All these points to learning communities being a positive influence on the student, which means that there will be less behavioral problems in the classroom.

*Less Behavioral Problems* Research has proven that students on one or two subject teams instead of half of their school day felt a considerably weaker feeling of community (Okley, 1990, 1997), which lead to more behavioral problems in the classroom (Felner et al. 1997), and thus students performing at a lower level academically (Felner et al. 1997, McMullan, Sipe, and Wolfe, 1994; Oxley, 1990). There must be a good working relationship with the teachers that make up that team in order for there to be a reduction of behavioral problems. Students are easily influenced by the positive communication between their

teachers (Murata, 2002). Arranging a school into teams leads to the formation of smaller communities, which cultivates supportive relationships among the students (Jackson and Davis, 2000). It is these relationships formed between the students and their teachers that will play an integral part in their involvement and enjoyment of the class (Murata, 2002). The positive atmosphere generated with in teams directly impacts psychosocial development and indirectly impacts achievement (Epstein, 1981).

*Positive Self-Concept* It has also been proven that a student, who possesses a positive self-concept, is most likely to be successful in their academic pursuits and most successful throughout life. Research has shown that a positive school climate established by teachers and administrators can positively affect a student's self concept, which in turn will promote achievement, creativity, and a general feeling of comfort (LoVette, 1997). Research has also shown that students with a low self-concept are more likely to be aggressive while at school compared to those students with a high self-concept (Taylor, Davis-Kean, and Malanchuk, 2007). So if a school has a team that is functioning on a high level, meaning it is fostering positive relationships between the teachers and students and is creating meaningful educational material; then students are more likely to be engaged in the activities. And students that are more attentively listening, active in class, and cognitively engaged will have a positive impact on their achievement (Greene and Miller, 1996). Higher achievement in the classroom

improves the students' self-concept, which in turn will result in less discipline problems amongst the learning community.

## Benefits of Teaming for Parents

Involving parents on teams can be an extremely useful tool for both parents and teachers. Involvement of parents can come from team newsletters, aiding in team activities or field trips, to a simple phone call (Spies, 2001). Our team decided that a nice gesture would be to call every parent of a student on the team and personally invite them to parent-teacher conferences. It allowed us to introduce ourselves before that night and it gave the parents' a sense that they were welcomed and wanted to come to parent-teacher conferences. Individual teachers may not have the time or effort to write newsletters to inform parents of the day-to-day happenings in their classroom or to even call every single student's parents. But if the writing and calls can be divided between teachers on a team, then newsletters and personal invitations to school can happen more frequently.

Inviting parents along on field trips or other team activities would allow the parents to acquire a first-hand account of some of the topics their students are learning in school and some of the social aspects their students are facing every day. In the beginning of the school year, our team decided to have a low ropes course to get students to interact with one another and for the teachers to get to know their students better. In order for this activity to be successful, we needed several parents to aid us. These parents that helped us all expressed gratitude for

inviting them and allowed us to establish a parental community and involvement to our team (Hopping, 2000).

## Benefits of Teaming for Teachers

Student and parent benefits are not the only reason that schools consider forming teams. In a study of eight high schools from 1993, McLaughlin focuses on professional learning communities of teachers that have a high level of innovativeness, high levels of energy and enthusiasm, support for personal growth and learning, and a high level of commitment to teaching and to all of the students with whom they work (McLaughlin, 1993). Teachers can reap the benefits of teaming just as much as students can. Having the team allows teachers to feel a sense of security in attempting projects or lessons that they may not have undertaken on their own. Teachers can gain social support and understanding from their fellow team members (Williamson, 1996). And a well-formed and cohesive team allows for teachers to feel open about asking for help in matters such as improving a lesson or managing a student's behavior. Teaming teachers will have a sense of belonging as well as an opportunity to improve their own teaching abilities (Murata, 2002). Teachers on a team that have bonded with their fellow team members; commit more time, knowledge, skills, and energy towards their team. Not only will teachers trust and respect fellow team members, but they will also be able to understand their own strengths and weaknesses as a teacher (Murata, 2002). As the team continually works together, they will

recognize the different qualities, beliefs, attributes, and teaching styles that encompass the strengths and weaknesses of each member of the team. This will create a climate of respect within the team and in their classrooms (Murata, 2002). The concept of a professional learning community is being formed and it can only emerge in a team culture of trust, risk-taking, and support (Thompson and McKelvy, 2007). This in turn will improve the quality of the team members' work and the enthusiasm within the team for both the teachers and the students (Oswald, 1996). Students recognize the synergy between teachers that are encouragingly working together on a well functioning team, which consequently will influence their perceptions of the classroom in a positive manner (Murata, 2002).

Bringing expertise from multiple teachers from multiple subject areas can cause team members to produce unique, challenging, and entertaining lessons that will incorporate students' interests with the curriculum that needs to be taught. A collaborative effort generates meaningful cross-curricular lessons for the students and is helpful in giving a deeper understanding of the content for the teachers (Murata, 2002). With each new cross-curricular lesson plan that is created, each teacher can experience educating students on the same material but in a new fashion. This will allow the teacher to try different teaching methods in their classrooms and get away from the mundane lesson plans that they have continually used in the past. It is through experiences like this that teachers will see an increase in job satisfaction and the creation of a positive and rewarding work atmosphere (Hackmann, 2002).

In order for these lesson plans to arise within the team, there must be a positive bond between the members that will allow for an open and free forum of communication among the team members. As communication among the team members increases, teachers will be able to perceive an increase in opportunities for collaboration, which will further communication among the team members, enhance satisfaction, and increase opportunities for professional development (Arhar, Johnston, and Markle, 1989).

The walls that some teachers build up to help protect their egos are in a sense torn down for the better good of all on the team and in the school. Working on teams allows teachers to not feel isolated as if they are all alone on an island. But rather teams bring colleagues closer together to renew and build up energy in the classroom and in their professional lives by promoting collegiality and collaboration (McCracken and Sekicky, 1998; Oldfather and Thomas, 1998; Trent, 1998). This renewed energy as a result of teachers working together will in turn produce a better atmosphere in the classroom and improved lessons for the students and the teachers, and unique opportunities, like team field trips or team lunches that can benefit both the teachers and their students.

Collegiality and collaboration on a team will lead to new and exciting lessons and positive energy in the classroom, but there needs to be some consistency with the rules that all members on the team are willing to adhere to in their own classrooms. All the teachers on the team should plan some time towards agreeing on implementing the same sets of rules and procedures in their classrooms. Having the same sets of rules and procedures will allow students to

not worry about the numerous differences that can exist from one teacher to the next. They will know that these are the teachers on the team and they all have common rules and procedures for their classrooms. Marzano mentions that effective teachers not only plan for classroom management before school begins, but also dedicate time at the beginning of the school year to make sure that students understand the rules and procedures. He goes on to say that students not only need to understand them, they need to accept them and even practice procedures to execute them in routine fashion. And Marzano remarks that practicing must occur throughout the school year, especially if some of the rules or procedures are repeatedly broken or disregarded.

Ineffective procedures and the absence of routines for students to follow, can lead to wasting large amounts of time and cause students' interest and attention to disappear (Emmer, Evertson, and Worsham 2003). And behavioral rules should be stated clearly with rationales behind each one and the number of rules should be kept to a minimum (Good and Brophy 2003). By having the same set of rules and procedures for all teachers on the team and to practice them periodically, student behavioral issues should decrease, which will lead to less stress for the teacher and a more positive atmosphere for all in the classroom.

As the teacher and the atmosphere they build up in the classroom becomes more positive and full of life; students can feed off of this energy and they, themselves, can become more positive and full of life. Students that enter a middle school where they have seven different teachers throughout the day can drain their energy and thus appear to be monotonous drones that idly go from one

class to the next. The only energy they seem to obtain is from the passing time in between classes when they can see their friends. Then it appears that the energy simply drains from their bodies as they enter into the classroom. If teachers have a better attitude and simply do not just go through the motions of their lesson plans, their energy can illuminate a classroom and thus students can begin to feed off of this energy. Teachers on a team generate this positive energy through their discussions about students, lesson plans, and other issues. In addition, if the students have the same peers in multiple classes, they can get to know each other better and have a greater sense of security than if the entire grade had students randomly placed in all their classes throughout the day. Dewey wrote that "the school itself must encompass a community life" (Dewey, 1966, p.358). Teachers can set the tone for this community through their work on various teaming issues, such as class schedule, interdisciplinary topics covered, a uniform classroom environment, etc. Teachers and students then can reap the benefits of this community life that teaming offers.

If the process of teaming is performed with a positive attitude and a willing effort by all members, then teaming can emit a feeling of a community or a belonging for not only the teachers, but also the students that are on the team. Teachers will feel a shared commitment towards the same group of students and their isolation within their own classrooms will fade. Teams allow for smaller communities to form within a school, which lead to developing more supportive relationships among the students (Hackmann, 2002). And best of all, teachers will have a greater sense of their abilities in the classroom to affect student

learning. Teachers will develop a more positive view of themselves and their work (Williamson, 1996). They will have a more positive professional self-image than other teachers (Gatewood, Cline, Green, and Harris, 1992), their sense of their teaching abilities is more positive (Warren and Muth, 1995) and they will feel less inclined to be caged in the confines of their own classrooms (Mills, Powell, and Pollak, 1992).

## Characteristics of Teachers on a Team

With this thought of benefits to the students and the teachers, my school decided to take the proper steps forward to form a team for the lowest grade in our middle school, which is the seventh grade. In order to form this team, the principal and one of the vice principals discussed with numerous teachers their teaching philosophies and other questions that pertained to classroom management and teaching style. They were seeking four teachers that would share a similar teaching philosophy and style (Spies, 2001). Four teachers that are flexible in their lesson plans, that are flexible in the order in which their course material would be presented, and that are willing to put forth the effort to let this middle school reform actually occur in their classrooms. In other words, they needed teachers that were willing to experiment within their subject areas and not be constricted by rigid lesson plans that they would refuse to change or alter in any way. Teachers that will learn to think and function as one unit (Merenbloom, 1996). They needed teachers that could gel and work together as they would be

meeting at least once a week for an hour and sometimes more often than that. The teachers on a team must be able to share their unbiased opinions and overlook their own presuppositions for the group to function properly (Bruffee, et al., 1994). They needed teachers that are open-minded and eager to try to new things in their classroom and with their lesson plans. They needed teachers that were willing to venture away from the normal practices that have long become etched in stone in this school.

In a school that has traditional values; many teachers are able to consider their own classroom as their own little kingdom. A teacher is able to close their door and not have to think about what is happening in any other part of the school. This concept of isolation would have to be broken down for a team to be formed. The members of this team would have to break the mold that so many other teachers in the school have grown accustomed to. These teachers must be willing and be committed for the team to function properly (Spies, 2001). They would have to be bold enough to try new things and understanding enough to know that they would not be changing the world in one year. Nonetheless, these teachers would be implemented into a system of reform to better themselves, their work, and their students for years to come. To begin this process, they needed to come up with their own definition of a team and determine some of the goals that they wished to accomplish.

## Scheduling

The construction of a professional learning community can offer teachers unique opportunities to manipulate the time schedule of the student's school day. However, this flexibility with the schedules can only be obtained if the same group of students is scheduled to team members in back-to-back periods. By creating this block of time, team members can then use it for lengthening or shortening class periods, so that the time varies to fit the needs for a particular instructional task (Clark and Clark, 1997). The students' classes do not have to follow the same sequence every day, nor do they need to meet for the same number of minutes (Merenbloom, 1996). Unfortunately, even if a team is created to have this block of time, team members are not taking full advantage of the opportunities that this structure allows them (Alexander and McEwin, 1989; Lounsbury and Clark 1990; Lounsbury and Johnston, 1985, 1988). In some instances, the teachers from the learning community continued to teach their single subject in their specific class period. In other words, they were not being flexible in the instruction time that some unique cross-curricular activities may require (Clark and Clark, 1997). Variety and change in a student's day can help that person to learn and comprehend the material better (Murata, 2002).

One way to add variety and take advantage of these blocks of times would be utilize the time for a large group activity. This activity could be a shortened field trip to a structure nearby the school, like a stream or park. Or the time could be used to emphasize a theme, like responsibility, that all the team members are

focusing their material to incorporate. The block time could be used for a team meeting that highlights certain students on the team for remarkable improvement, attendance, or some other award. A reward, like games or a movie, for outstanding performance could be another use of that block time. Or the block time could be used for a large group activity with a purpose that emphasizes the team and its members.

These large group activities can be extremely helpful to build the idea of a team, especially for students and teachers that have never experienced this concept of teaming before and for students as they make their transition from elementary school to middle school. Teachers tend to underestimate the difficulties that students face when entering middle school (Merenbloom, 1996). In order to aid in this difficult time for students, the learning community needs to ensure that students get to know, interact, and become comfortable being with one another. They do not all have to be best friends, but they do need to know how to work with one another despite people's flaws. Having these large group activities enables students to participate to the best of their abilities regardless of any mental or physical deficient. It is with these large group activities, that we can begin to arrive at our definition of a team; which is a number of persons that are associated together in work or activity. But this does not totally encompass the definition of a team. There is one little addendum that when added to it that will enhance this definition. By adding the phrase, "for a common goal or purpose," it stresses that the members of this team must be able to work together and have a goal that is attainable. The goal of the large group activities can be seen right

away as the students will know if they completed the task correctly or not. The same can be said for our team as some of the goals will be seen right away, while others will take time to see if they were successful. Thus the goals we set out for our team are limited as we did not want to take on too much in our first year. It was decided that our team would expand on all successful goals that were met and to readdress those that were not obtained so as to create a diverse repertoire to meet the needs of each and every student.

Our team was designed to have a block of time set aside so that we could utilize it for large group activities. The first three periods of the day for the Science and History classes would be composed solely of students that were on the team. This means that there would be ninety students dispersed across three class periods for the Science classes and an additional ninety students for the History classes. Being that the English teachers have the students for two periods every day for Language Arts and Reading; they would get these students across the six periods throughout the day. This setup in itself had some benefits and drawbacks. Having this schedule would allow the team to have a block of three periods every day to have ample opportunities to work together or to rearrange our class sequences or to manipulate the lengths of the individual periods. The idea is great, but we rarely took advantage of these opportunities.

In the beginning of the year, we did take full advantage of this three hour block of time. We decided that a good introduction to the year, to middle school, and to the team; we would do a low ropes activity course so that the students on the team would be forced to work together and get to know one another. More

and more teams are including an orientation or adjustment activity to aid in the transition for students from elementary school to middle school (Merenbloom, 1996). The low ropes activity was enjoyed by all and a complete success. Even the students that were reluctant to participate at first; eventually let go of their inhibitions and had a really good time. Despite being a complete success for the students and the team members; there was a major flaw, which proved to be the ultimate reason that we never did a large group activity again. This reason for not taking advantage of the first three period block of time is that we had to pull some students out of one of their other first three period classes that were not History, English, or Science. Teachers, that had students taken out of their classroom, were adamant and very vocal that we keep these large group activities to a bare minimum. As a result, we never did another large group activity; although we did discuss trying to have a couple more throughout the year. Despite this drawback to the block of periods, the idea was magnificent. This block of time could have been used for a multitude of different activities, such as rearranging sequences of class periods; adjusting the length of each period; short field trips near school grounds; team meetings for a talent show, award ceremony, student recognition, or rewards for academic or behavior bench marks met; and time to ensure complete understanding of course materials by all students. Due to the multitude of uses that this block of time can be used for, I recommend structuring the team's course schedule in such a manner.

## Planning Time

In addition to utilizing a block of sequential periods to help the team function properly, learning communities also need to have a specific time set aside for the team members to meet and discuss various topics about their team. These topics can range from up-and-coming team activities, cross-curricular lessons, team goals, and student issues. It is during these meetings that teachers will become comfortable and build trust with their colleagues. Their fellow team members will be a support system that encourages innovative thought and professional autonomy (Clark and Clark, 1997). Since this is a vital portion of every team, there needs to be a specific time and place that all team members will meet. The more often the team members have planning times, the more effective that team will be (Mac Iver, 1990). Without regular meetings, teams will not be able to complete the planning, organizational, curricular, and instructional tasks that are necessary for the success of the team (Clark and Clark, 1997).

It has been researched that teams need to meet regularly to be effective, but how often do the PLCs need to meet? Some school districts; like in Bemidji, Minnesota; have the teams meet only one hour a month for seven months (http://www.bemidji.k12.mn.us/Staff/plc.html). The Southern Arizona Writing Project instructs their teams to meet at least twenty-four hours during the school year, but does not specify how those twenty-four hours need to be broken up (http://sawp.web.arizona.edu/PLC.htm). On March 3, 2009, Batavia High School in Batavia, Illinois was informed that they could implement PLCs within their

school and has agreed to have them meet for one hour every Thursday (Drexler, 2009). Jordan and Canyons School Districts in Utah have established that all their middle schools will have a two hour later start time on all Fridays in order to allow different types of PLCs within their schools to meet (http://jordandistrict.org/resources/directories/pdf/schoolhours10.pdf and http://www.canyonsdistrict.org/school-hours.html). Freeport Intermediate School in Houston, Texas is a middle school that has their teams meets daily to discuss and clarify the essential outcomes of their grade levels and courses to align those outcomes with the state standards (DuFour, 2004). Other school districts may meet for different amounts of times throughout a week or month. Regardless, the team must find a way to meet consistently in order for data to be collected and discussed to demonstrate the effectiveness of the team. This data then will lead to improved teacher practice and success in the classroom (DuFour, 2004).

In Arhar's article, she mentions that the restructuring time schedules within a middle school can lead to issues that are related to the entire school. The problem areas that can arise with teaming include: time conflicts between team or whole-school issues; increased focus on only their team of students; limited peer observation time; competition between teams; and the tendency between teachers on a team to compromise rather than risk serious disagreement, which can lead to an avoidance or disregard to really important issues (Arhar, 1997). Our team can easily relate to these dilemmas, which leads me to believe that they occur on almost any and all teams. I have already addressed the time conflict with our

team and the entire school in the beginning of the year activity. Other time issues include the lack of time to meet on a regular basis. All four teachers on the team shared a common preparation period, which was the most common time that we met, but it took away from our other duties in our classes. We needed more time for discussion on team matters and time to dedicate to preparing our classes in terms of grading, future lesson plans, making copies, and classroom organization. In weeks of school that were shortened due to holidays or whole school activities, we would not meet and thus it could be two weeks before we discuss team matters.

# Methods

## Determining If Teaming Benefits Students

Most middle school educators consider interdisciplinary team organization, in which teachers share students, space and schedule, a necessary component in meeting the needs of the middle school student (Arhar, 1997). In the middle school that I am working at, this is exactly the style of team we formed to better prepare these students for life in middle school. Our intent was to determine if teaming is going benefit students as they enter into the next stage of their educational careers. In order to determine these benefits, I used a cross-curricular project in which students composed a presentation in which one animal would interview another animal and I also collected data from standardized test

scores that every seventh grader must complete at the end of their Science course. From a science perspective, the report will answer eight questions that will help the student learn more about the animal, such as the animal's diet, physical characteristics, and habitat. From an English perspective, the report is an opportunity for students to learn how to conduct research, to write in an interview format, to learn how to use the PowerPoint program, and to write a bibliography. The idea of this project was to see if students on an interdisciplinary team would score higher on a rubric for a written inquiry project than students on non-interdisciplinary teams? Using the overall scores of this project and the standardized tests will establish the benefits that students will receive from being involved with a team.

## School Overview

Crescent View Middle School is a larger school with over 1,300 students. Most students are from a high socioeconomic status, but there is a growing population in the school that receives free lunch and/or breakfast. Students are mainly of white race with a small number of minority students. So when it came to choosing which students will be on the team and which will not, we made sure that there would be a randomization of students on and off team. Thus all 7$^{th}$ grade students at Crescent View Middle School in Sandy, Utah between August 2006 and June 2007 were placed on or off the team based solely on how their Science and English classes fit into their schedules.

## Team Overview

Some schools in our district have an early out day, where they set aside one day a week for teaming to occur and no students are in the building to prevent teachers from accomplishing this task. These schools have both department teams and interdisciplinary teams and on those early out days, both of these teams meet. Unfortunately, we do not have an early out day and thus we do not have the luxury of the time for these teams to meet as these other schools do. As a result, we need to find extra time that goes beyond our normal working day. We concluded that we could meet before or after school for one hour per week. We also had a common planning time during the school day, so most of our meetings occurred during this fifth period preparatory time. Then we would either stay later throughout the week to make up the contract time we were using for the teaming time.

In my school, our team of four teachers decided to meet once a week to discuss cross-curricular lesson plans, activities with the team, upcoming activities, and any student concerns. Being that this would be the first year of our team's existence, we decided that it would be best to only attempt a couple of cross-curricular activities. Then as the years would progress, we could add a couple of more each year until we were satisfied with the number of cross-curricular lessons; all the while we would tweak, adjust, and perfect the established interdisciplinary lesson plans.

Discussing and implementing cross-curricular lesson plans was only the tip of the iceberg in terms of how the students would benefit from being a member of the team. The design of our team brings with it some benefits and drawbacks for the students. Both the science and history courses for seventh graders are semester long courses. Thus my students in science the first semester would all have one English teacher and the students in the second semester would have a second English teacher.

## Working With Only One Member of the Team per Semester

Working solely with one English teacher each semester had some benefits and drawbacks that came about as a result of the setup of the team. My first semester on the team, I worked with Mr. Olsen, whose classroom was next door to my classroom. The classrooms in this school are arranged so that a block of four classrooms would have three of them with no walls between them and a fourth that was entirely enclosed. Mr. Olsen and I had no wall between our rooms and thus we were able to see and hear what each other was doing in their class.

*Positives to No Wall* This arrangement worked extremely well for some spur of the moment alterations in our lesson plans. For instance, I assigned my class a project that the students would have to use metaphors to describe the function of the different parts of the cell. Being only a semester course, I do not have the time to dedicate an entire period to teach them how to create and use

metaphors. I only have the time to give a few examples of metaphors and of the overall project before I need to move onto other material. Since I have used this project in past classes, I knew that some students would struggle with the concept of metaphors and how to create them. Knowing that some of the students would struggle, I mentioned this project to Mr. Olsen and he altered his lesson plans to spend the necessary time to aid the students in understanding and grasping the concept of metaphors. Thus the students were presented with this concept in two different classes and from the teacher stand point; I was able to refer to the students that their English teacher is also working on this concept. In essence, the students were getting the same material from two different angles in the two different subject areas.

Having classrooms that were directly next door to each other had other benefits. I was able to see the students for my one hour with them and the two hours they had English, which consisted of an hour of Language Arts and an hour of Reading. Thus I was able to communicate with them on multiple occasions throughout each school day; before and after each class and sometimes during the class period. This continuation of interaction is comforting to students as it can remind them a little bit of their elementary school environments and it shows that they have teachers that care about them. Another benefit to the classrooms being next to each other is that if I or Mr. Olsen needed to run an errand, such as making more copies during class; then the other can take over both classes and have a direct student-teacher relationship that has already been established. Students will inherently try to press the buttons or stretch their limitations with substitutes they

are unfamiliar with or do not like, but having a teacher they already have on their schedule limits and even removes the temptation to misbehave.

*Drawbacks to No Wall* The drawback to having a classroom that has no wall with the classroom next to it is an obvious one. Students are easily distracted by the next class. Since these students were on the team where they had multiple classes with each other, thus they had lots of friends in the next classroom. Thus they would try to communicate with each other quite often. In addition, if the English class was doing an activity or I was doing a science lab, the classroom's commotion typically was quite loud. This would further distract students from their own class and their own studies.

This arrangement of classrooms had another drawback which is that I was a Science teacher using an English classroom. The facilities at my disposal were extremely limited and very unsafe for students. I had an eyewash system that could be used by only one student on one eye at a time. I had a portable sink that could use only a couple of gallons of water before I would have to dump out the bucket; thus was never used throughout the year. I had carpeting on the floor, so any and all spills would soak into it instead of being wiped clean. The list of potential hazards in this classroom goes on and has little bearing to this topic, but I felt was necessary to be mentioned.

The arrangement of sharing a classroom was great in having a colleague on the team so close, but the level of distraction and the unsafe conditions proved to be too much and thus my classroom would be moved to a new location in

future years. I looked forward to talking with and discussing various topics with Mr. Olsen every morning. It was convenient to talk about students' problems or concerns right in the classroom instead of having a formal meeting. It was easy to talk about upcoming topics or material that may also be covered in his class. To talk with him, all I had to do was look over in his class to see if he was in there instead of trying to track him down somewhere in the school. Convenience was ultimately the greatest aspect to the room arrangement. This was something that I did not share with in the second semester when I worked solely with the other English teacher on the team.

## Differences with Second Semester

Since my science class is only a semester long course, I only shared students with Mr. Olsen for the first semester. The second semester, I shared students with Mrs. Buchmiller, whose classroom was in a portable that was about two hundred feet from my room. This is not a lot of distance from each other, but the communication I had with Mrs. Buchmiller was a lot less than with Mr. Olsen. It was the distance between us that I believe led to this lack of communication. We did work together on a couple of projects, but the day-to-day discussions on students and our classrooms were not there. Instead these discussions would only come in our weekly meetings. This lack of communication between the two teachers could be seen in the students. They seemed to no longer have that mentality that they were on one big team, but rather that they were students

jumping from class to class. The only benefit is that these students were in their second semester and thus were already integrated into the school.

Regardless of the amount of time that we met, it never seemed like it was enough to focus on all the issues; mainly cross-curricular activities and student concerns. More time dedicated to these two issues alone would benefit students immensely. The difficulty is determining in the future how much time is really needed to aid in making the students' transition from elementary school to middle school easier. Teaming and having the teachers on the same page as well as working together should ease the transition that these students are forced to endure.

## Our Planning Time

Despite not having any early out time, we planned as a team to meet at least one hour every week. In addition, we met as a team for three extra hours the week before classes were set to begin for the school year. It was during these early meetings that we began to look at all of our curriculums for the school year. Our school district has a core of topics that need to be covered for each grade level and for each subject. To get a better understanding of the requirements that need to be met for Science, Language Arts, and History, we set up a large sheet of paper on the wall. Then we wrote on post-it notes the various topics that will be covered and approximately the time during the year that we will be covering

them. Once this task was complete, we then took a step back to determine where some cross-curricular activities could occur.

## Science Topics

One of the topics covered in Seventh Grade Integrated Science is classification. Students need to comprehend and understand that similar structures of organisms are used to develop current classification systems (Utah State Office of Education, 2003). They need to have an understanding that all living organisms can be classified into six different kingdoms. In addition, they will need to comprehend that organisms are grouped using an orderly pattern based upon the organism's structure (Utah State Office of Education, 2003). This means that organisms are grouped determined on different characteristics that they have in common. And throughout history, scientists have attempted to group organisms using, developing, and modifying simple classification systems to generate the system used by scientists today (Utah State Office of Education, 2003). Even though the system remains relatively simple, it has now progressed to contain 7 different levels, with the last two comprising of the scientific name for that organism.

## Language Arts Topics

In their Language Arts classes, students need to write an informational text that reports observations, recalls experiences, and will persuade others (Utah State Office of Education, 2006). It is mentioned within this standard that students will write to identify feelings or recreate an experience. And through this, they will need to identify an audience, to which they will direct their writing and the writing must be clear, coherent, and chronologically-sequenced (Utah State Office of Education, 2006). Students will then need to edit their work for organization, voice, word choice, sentence fluency, and conventions, which will be included in the rubric for their final grade on their report (Utah State Office of Education, 2006).

Looking at both of these topics, one of the Language Arts teachers on the team recalled a book that she had read about a grasshopper interviewing a tarantula. It was written for a second or third grade class, but it still conveyed a lot of the information that would satisfy both of our core requirements. It was deemed by the team that this is an excellent opportunity to have the students write their own stories about an animal interviewing another animal and still bring in the concepts of classification.

## Rubric

A rubric was devised to allow the students to understand the requirements needed to complete this assignment. It also will aid us in the grading process for these projects as the rubric will allow us to remove subjective grading from the projects and make it more objective. Each criteria item within the rubric will be discussed with each class to ensure understanding and comprehension for each student to receive the highest score for that item. Classification, voice, and bibliography each are graded on a scale of one to five. A score of five represents that the student has fulfilled all the requirements for that particular standard for the project. A score of three represents that the student did not meet all the requirements. And a score of zero represents that the student did not any of the requirements or that particular standard was omitted from the final project. Physical characteristics, adaptations, organization, conventions, and creativity are graded on a scale of one to ten, with ten being the best score. And there is one last category, other, that was scored on a scale of one to fifteen, with fifteen being the highest possible score. A copy of this rubric can be found in the appendix A located at the end of this thesis. As you can see from the example rubric, our rubric is divided into two sections. The first section is aimed more towards the Science course and the second conveys the requirements for the English course. The items that are aimed more at Science are classification, physical characteristics, adaptations, and other. The remaining five items (voice,

organization, conventions, creativity, and bibliography) encompass the English requirements.

For the Science portion of the project, students were graded on: whether they included the scientific name of their organism and if it was written correctly; the physical characteristics of their organism or what they inherited that helps them survive in their environment; their diet; their habitat; and their organism's interaction with humans. All these requirements focus on an organism's niche, or role in its own environment. This fits in very well within the elements that need to be taught in the Seventh grade Integrated Science Course.

The second portion of the rubric will be dedicated towards the English criteria. It is here that students will be graded on the voice of their interview, on how organized the interview is, on the correct usage of grammar, on how they are creative in their work, and on their bibliography. Like the sciences, these criteria fit very well into the core understanding students are to obtain in their Seventh grade English courses.

## Additional Worksheets

We also constructed a couple of worksheets to aid in the research process for our students so that their writing would be more complete. One of the worksheets had a list of questions that if answered correctly, would allow the student to have the information to completely satisfy that criteria of the project. The next worksheet will be an aid for the student in gathering the bibliography

information. As one of the requirements for this project, we wanted students to know upfront that they would be required to include this information. It also gives them an opportunity to learn this material for essay compositions that they will be writing in the future. And it makes for a great teaching point that students must site their sources and not plagiarize material for their projects. The worksheets to be used by the students to better prepare them for this project are included in the appendix B and C.

## Number of Students for Data

Being that I teach the Seventh Grade Integrated Science for students both on this team and for those not included in any teaming, I felt that this would be an excellent opportunity for us to determine if teaming and cross-curricular work is more beneficial for the student. And since the Science course is only one semester long, there would be plenty of data to determine if there is a benefit or not. During the first semester, there were 76 students that were on the team and 94 students that were not on the team. The second semester brought an additional 95 students on the team and 92 students not on the team. Adding up the total number of students, there are 171 students on the team and 186 students not on the team. This gives a grand total of 357 students that we are able to obtain data from. This larger number of students for our data will give us a higher power for our statistical analysis. The reason that some students were on a team and others were not was because this was the first year our school was attempting to create

the teaming concept for the students, faculty, and community. Therefore it was felt by the administration and the faculty that we should have a trial team to determine the benefits and drawbacks to starting the teaming process and establish professional learning communities.

## Project Presentation to Students

For both semesters of students, the project was presented and done in the same exact manner. Subject material for their Seventh grade Integrated Science Course was taught in the same order for both semesters. The project was completed near the end of the second and fourth quarters. Being that this is an interdisciplinary project for students on the team, they then would be using both Science and English class time to complete their project. The students that were not on the team would be presented the project in Science and would not have any English class time help on with the project, unless they asked their teachers on their own time.

I presented the project to the classes by reading through the questions and describing verbally how I wanted the project completed. I then read through the rubric on which they would be graded and described how the students could receive full credit for each section. The students were then told to think of an animal that they would like to use for the topic of their project. The following day, I took each class to the library for them to search for materials on their animal or help them choose an animal to use in their projects. Students were told

that they needed three separate sources (two on-line sources and one written text) to use for their project's information. Due to the limitations of a smaller school library, most students needed to rely on the internet to gather all their information. The following day, I took each of my classes to the computer lab and introduced them to PowerPoint, which is the program that they would be using to help present their projects. Being that most did not have all their data completed and that most were just being presented with this program for the first time, none were able to complete their projects during my one class time in the computer lab. Therefore, every student was instructed to complete the project on their own time, outside of Science class. Those classes that were part of the team were instructed that they would have more class time to complete their projects during their English courses.

Since this was an interdisciplinary project for our team, those students on the team were given plenty of extra time to complete their projects during school hours. Nearly all teamed students and most of my non-teamed students finished their projects during school hours. I did have a few students that required using my computer or the computer lab during their lunch periods, typically needing at least three lunches, to finish their projects.

Project Resemblance

This project closely resembled a book called, "Harry the Tarantula." The English teachers each had a copy of the book and read it to those students on the

team. None of the non-teamed students had ever read the book. In addition, the English teachers had copies of previous year's projects and teamed students were able to page through them to get ideas for their own projects. The English teachers for both semesters used three additional class periods for the teamed students to complete their projects. During this time, students were each given special attention to help research their animals, write a complete bibliography, maneuver through the PowerPoint program, and edit their projects. Those students that were not on the team did not receive this special attention, unless they sought it out on their own.

## Standardized Tests

Beyond this interdisciplinary project, all students need to complete some standardized tests at the end of their courses for Math, English, and Science. Math and English standardized tests are taken only once a year at the end of the fourth quarter. Science is taught in one semester increments. Therefore, students in the first semester will take their standardized test for Science at the end of the second quarter and students in the second semester will take their standardized test for Science at the end of the fourth quarter.

*Science* The standardized test for Science is called the Science Core Criterion-Referenced Test (CRT). The purpose of this exam is to measure student understanding of the science Core Curriculum. This is only one means to measure

student understanding and therefore it should be interpreted accordingly. The test is composed of multiple-choice questions which require students to select the best answer from four options. The Core Curriculum consists of content area objectives as well as Intended Learning Outcomes (ILO).

*English* The standardized test for English is called the English Language Arts Criterion-Referenced Test. It assesses the knowledge and skill of students from grades two through eleven in the areas of reading, writing, and listening as outlined in the Utah Core Curriculum. These tests are an integral component of U-PASS (Utah Performance Assessment System for Students) and the federal No Child Left Behind (ESEA) legislation. The test is based on the belief that reading is critical to all areas of student success, and therefore incorporates reading passages from a variety of content areas. Students, who have background knowledge from grade level science and social studies concepts, as outlined in the Core Curriculum, will have a greater understanding of the vocabulary and reading material included in these assessments. Like the Science CRT, this test is also a multiple choice format. Since all core concepts can not be assessed on a multiple choice test, the entire curriculum for this content area can not fully be covered.

*Math* The standardized test for Math is called the Math Criterion-Referenced Test. It assesses the mathematical knowledge and skills for students based on their math course placement of the material covered in the Core

Curriculum. Like the previous two tests, this test is also a multiple choice format with questions covering the standards and objectives taught throughout the year.

Objective Data

These three standardized tests allow me to obtain objective data to determine if teaming is successful or not in our first year of implementation. The data collected is a percentage based on the total number of questions the students answered correctly out of the total number of questions that were on the standardized test.

In addition to collecting data from each individual student on their performance on the CRT, I was also able to obtain data that examined for the Science course how each class performed on the CRT for each standard that is part of the Science Core Curriculum. This percentage is a class average of how well the students performed.

A statistical analysis was performed on the information collected using SPSS for Windows version 10.0.5 (November 1999). Because the number of students in each group was similar, pooled t procedures were used for statistical analysis. The means of the team versus non-team scores were compared using the two-sided t-test. Statistically significant differences were calculated using a p-value with $\alpha < 0.05$ as significant.

# Results

Throughout the 2006-2007 school year, I had 357 7th graders in my teamed and non-teamed classes. Of those 357 students, 7 were foreign-speaking students that did not take the CRT exams and 4 students were special education and did not take the CRT exams. During the following school year, Crescent View Middle School implemented a new policy that all honors courses would only exist in the ninth grade and thus there will be no honors courses in the 7th and 8th grades. As a result of this course of action, our school lost several students to a neighboring school. Due to their leaving Crescent View Middle School, I am unable to obtain their data for the CRT. There are some students that moved to new cities or states and thus I am unable to obtain their data as well.

When grading the interview project, we only had 289 students turn in a final project. Of the 11 students mentioned as foreign-speaking and special education, I did not receive a project from them. The remaining students choose to not turn in their project to receive a grade. The biggest reason I received from students was due to the fact that the project included a PowerPoint presentation. In terms of these remaining students, they were equally distributed throughout all the classes regardless of being on a team or not and regardless if they were in the first or second semester.

Upon completion of the projects, both teamed and non-teamed students' projects were graded using the rubric that I have previously mentioned. That data was then put into a SPSS program that runs the statistical analysis to determine if

there is a significant difference in the work between the team and non-team. A total of 106 projects were turned in for a grade from students on the team and a total of 104 projects were turned in for a grade from students not on the team. See data table 1 for the complete data and statistical analysis. There was a significant difference between the team and non-team students in the categories of physical characteristics (P=0.000), adaptations (P=0.001), voice (P=0.000), conventions (P=0.036), creativity (P=0.000), and bibliography (P=0.023). Of these differences, all were a result of the team performing better, except for conventions. In this category, where the highest score is a 10; the non-teamed students received an average of 8.45, whereas the teamed students had an average of 7.70.

## Table 1: Cross-Curricular Project Data

| Category | Team Students' Mean (N=106) | Non-Team Students' Mean (N=104) | p-value |
|---|---|---|---|
| Classification | 3.44 | 4.01 | 0.055 |
| Physical Characteristics | 8.93 | 7.69 | 0.000 |
| Adaptations | 8.83 | 7.74 | 0.001 |
| Other | 13.66 | 13.23 | 0.241 |
| Voice | 4.61 | 3.79 | 0.000 |
| Organization | 9.46 | 9.25 | 0.345 |
| Conventions | 7.70 | 8.45 | 0.036 |
| Creativity | 9.20 | 7.87 | 0.000 |
| Bibliography | 2.53 | 1.95 | 0.023 |

In addition to these projects, the Jordan School District mandates that all seventh grade students will take standardized tests in Math, English, and Science. Again I had 357 students that were in my classes, with 171 students on the team

and 186 students not on the team. I was also able to obtain their scores for these standardized tests for both the 7th grade. I collected this data two years after they took these exams. Therefore, I was not able to obtain scores for every student. Some students moved to different schools or different districts.

The mean scores for the Science, English, and Math CRT scores for students on the team are 70.36, 81.47, and 76.25 respectively. The mean scores for the Science, English, and Math CRT scores for students not on the team are 73.76, 82.66, and 75.92 respectively. None of the scores are statistically significant. Data collected on CRT scores can be found in table 2.

## Table 2: Criterion-Referenced Test Data

| CRT Test | Team Students' Mean (N=150) | Non-Team Students' Mean (N=138) | p-value |
|---|---|---|---|
| Science | 73.76 | 70.36 | 0.081 |
| English | 82.66 | 81.47 | 0.432 |
| Math | 75.92 | 76.25 | 0.836 |

# Conclusion

I will begin my comments on the two different forms of data that were collected with the information collected from the CRT scores between the team and non-team students. After putting the numbers into the statistical program, none showed any statistical significance. This is due to the fact that very little

was taught differently from the team to non-team students. In terms of Science, I taught every lesson, every worksheet, every test, and every project in the same exact format. There was not much of a difference for the students whether they were on the team or not except for the time of the day that I had the students in my classroom. The students on the team were always the first three periods of the day and the students not on the team were always after lunch.

Despite being taught in almost the same exact manner, there was some interesting data collected from the team and non-team projects. In this data, found on table 1, there are nine different categories. Of these nine categories, six showed a significant difference between the projects from the students on the team and those not on the team. The category, Conventions (P=0.036), is the only one to show a significant difference in which the non-teamed students performed better than the teamed students. Although the teamed students had more class time to work with their English teachers, they still did not perform better than the non-teamed students. It is possible that class time was used to emphasize more of the other categories with the idea that students could use spell check in their writing and the majority of the errors could be corrected through that method. The school has also implemented other writing strategies that will hopefully raise the scores for all students. So it is possible that these writing strategies resulted in the students not on the team to score higher than those on the team.

The other five categories [physical characteristics (P=0.000), adaptations (P=0.001), voice (P=0.000), creativity (P=0.000), and bibliography (P=0.023)] showing a significant difference in which the teamed students out performed their

counterparts. The categories of physical characteristics, adaptations, voice, and creativity scored on average over 1 point better for the teamed students compared to the non-teamed students. Bibliography scored about 0.5 points better for the teamed students than the non-teamed students. The reason for the significant difference in the performance on this project can be attributed to the fact that this was a cross-curricular activity. So the teamed students received more class time to research their projects, design their projects, and more attention from their English and Science teachers. The non-teamed students received very limited class time to work on the projects compared to the teamed students, who were able to work extensively through their English classes. Also, I was the only teacher that was connected with this project for the non-teamed students. So if they needed help with this project, they would need to come to me, whereas the teamed students could seek their English teacher or me for guidance.

The categories that did not show a significant difference in the projects of the teamed and non-teamed students were Classification (P=0.055), Other (P=0.241), and Organization (P=0.345). Classification was a fairly simple category where the students needed to list the scientific name that included both the Genus and species. Although the average of the non-teamed students is higher (4.01) than the teamed students (3.44), it was not statistically significant. Other and Organization are the other two categories that are not statistically significant. Both of these categories have averages that are almost identical. These categories must have been explained better to the students or were easier to understand as all

of the students earned almost the full amount of points allotted to these categories as determined by the rubric.

As I look through some of the projects the students turned in, it is quite easy to see that some were guided through the process and others were made to do it on their own. Those students that were on the team all had an English teacher that dedicated multiple class times to these projects. As a result of this extra guided time, the students' projects had more pictures or were more colorful. In other words, they were more pleasing to the eye when grading them. Students on the team clearly got more out of this project as their work was on average a step above the non-teamed students.

As a teacher, I also benefited from this project. Since I have only a semester course and enough material to easily cover a year long science course, I am always running short on teaching time before their CRT. Since I do not have ample time, it was very helpful that the English teachers spent additional class time with the students on their projects. They were able to go step by step on how to use the PowerPoint program and help students to use the computers. The students also were able to get corrections and edit their work in their English class. The non-teamed students did not have this extra guidance. They were forced to do it on their own if they could not find help elsewhere.

Cross-curricular activities were just one of the ideas that we were hoping to generate when we formed our team. We were also hoping to improve the education of the students and generate higher test scores for the teamed students. Despite my study showing that there was no difference in test scores between

students on or not on the team, there was data that could have been collected that may have shown a difference between these two groups of students. I mentioned before in the Benefits of Teaming for Students, there are multiple studies proving that teams can improve a students' self-concept, establish a learning community, improve attendance, lower behavioral problems, provide a feeling of safety and comfort, incorporate a variety of learning styles, and increase student achievement. Despite mentioning these key concepts to teaming, my data collection does not cover any of these. If I gave the students a questionnaire before the beginning of school and at the end of the year or did an interview to each of the students, I may have generated some extremely useful information that could have shown a difference between the teamed and non-teamed students. Further research and data collection would be needed to determine if our team was successful in any of these teaming concepts.

When I began to discuss teaming with the administration and the fellow teachers on the team, we set our goals high to form our vision of the best possible team. But as we went through the school year, some of the ideals that were originally discussed were either abandoned or we never followed through with them. For instance, before school even began; the teachers on the team met for three hours to plan and set up our team for the entire year. John Cleese once said, "If you want creative workers, give them enough time to play." Although the three hours time was used efficiently to help coordinate our curriculums, it was not a substantial amount of time for us to be very creative and prepare everything

we needed for the team in order to implement all of the team concepts described in the literature review above.

We set up our team so that the first three periods of the day would be dedicated to the team. But due to scheduling conflicts, students had classes in the first three periods that were not team related. As a result, if we did want to have an all-team meeting, team rewards, or team activity; we would have to pull students out of different classes. We tried to do it once with a low-ropes course in the beginning of the year and then we never did anything like that again. Other teachers in the school were not happy that we were pulling students out of their classes. Thus this concept of teaming was abandoned. From a study by Williamson in 1996, he reports that many schools that implement teaming; often teach the same concepts in the same instructional strategies and solely abide by the 45-50 minute class period. Thus these teams neglect the potential benefits of creative use of time on student achievement. Mergendoller reports that structural changes to the length of class periods make it possible to create a more caring and responsive school environment. I feel that if we would have continued to do smaller activities with the students on the team and varied the length of the class times, there would have been a greater sense of community amongst the team; which would then lead to many of the other benefits that studies have shown in teams.

In addition to this block of time not being utilized for team activities, it was also not being utilized as a remediation opportunity. The Carnegie Task Force on the Education of Young Adolescents (1989) recommends that all

middle-level schools proactively address the needs of students through remedial instruction activities that provide specialized instruction and additional time to learn. If our team had a true block of time that did not interfere with other classes not on the team, then we could have utilized this block of time to help those students that were struggling with concepts in our classes. Thus I see this as another missed opportunity where we did not encompass team ideals that could have benefited students and thus improve their overall understanding of the curriculum, which may have improved their overall end-of-the-year test scores.

In addition to this lack of utilizing the block of time for teaming purposes, I feel our team created too few cross-curricular activities. Since this was the first year of our team, we wanted to keep things relatively simple and only have a couple of cross-curricular activities. We determined early on that we would add a couple more every year and eventually have a lot of activities to choose from or implement. Thus there were only a couple of opportunities for students to constitute the connection of course material from one subject to another.

Despite only creating a couple of interdisciplinary projects, there was a benefit to having multiple teachers work together on the same project. Since we are all doing the same project, it is less pressure on just one teacher and a feeling of openness between all the teachers on team to mention what was helping and hindering the students. This will allow the project to flow smoother in future classes and ensure more understanding by the students. For instance, some of the important concepts we took away from the project in this thesis is that we need to stress an understanding in how to use computers or instead allow students to

illustrate the project by hand. We also noticed that students needed to learn how to properly conduct research, how to write a report, how to be creative with their work and still include the necessary content, and how to edit their work once it has been written.

Cross-curricular projects, like this one mentioned in this report, are great way to establish a professional learning community (DuFour, 1999). This is a community that consists of teachers that are willing to share ideas, work together, and be flexible in their teaching. But having multiple teachers working together on regular lesson plans is by far the most helpful. Every day I was able to talk with one of them and discuss various ideas, concerns, and complaints pertaining to the students or the lessons to be taught. Gone is the concept of isolation, where a teacher works on their own and in their own classroom. That concept had to be annihilated in order for a team to be formed.

In my first year of teaching, I was pretty much in seclusion; where my classroom was my territory and I had a "no one else shall enter" mentality. I saw first hand how detrimental and difficult it would be to continue teaching in such a manner. I was more than willing and able to share my thoughts and lessons, but I really did not know if they were worth sharing. After one year on a team and time to reflect, I have learned that even though my thoughts and lessons may not equal the perfect lesson plan, it was a process that could be started to lead to an excellent lesson plan. Having a professional learning community of teachers that all share similar ideas and concepts, not only helped me to become a better teacher, but it also helped me grow as a person. I had a better idea of who I was

so that I could be more effective in the classroom. Having the same classroom rules and procedures and knowing that the other team members are also implementing those rules and procedures helped in my classroom management skills. Sharing ideas with each other to create cross-curricular ideas is extremely helpful for me and for the students. "The most promising strategy for sustained, substantive school improvement is building the capacity of school personnel to function as a professional learning community. The path to change in the classroom lies within and through professional learning communities" (McLaughlin, 1995).

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# Appendix A

## Science Interview

Harry the Tarantula

Students will choose an animal for their topic. They will complete research about that animal in science, using the interview topics below. In English, students will turn their research information into a PowerPoint slide presentation. This will then be printed and bound like a book.

### Book Requirements/Interview Question Topics

1. Survival (What adaptations have they made? How do they use camouflage? How do they fight/save themselves?)
2. Physical characteristics (What traits help them adapt and live in their environment?)
3. Growing and developing (What is a baby called? How long do they live?)
4. Diet (How do they feed? Are they predators or prey? What do they eat?)
5. Habitat (Where do they live? Do they live in groups? Climate?)
6. Human interaction (How often do they come in contact with humans? Are they friendly?)
7. Scientific name (What are the Genus and species name?)
8. Interesting facts (List anything that you've found that is interesting, but might not fit into your interview. Include at least five facts.)

### Scoring Rubric

**Science**

| Requirement | Points Possible |
|---|---|
| Classification—scientific name | 5 |
| Physical Characteristics—What did they inherit to help them survive? | 10 |
| Adaptations—How do they survive in their environment? | 10 |
| Other Information—Complete in detail the remainder of the questions | 15 |

**English**

| Requirement | Points Possible |
|---|---|
| Voice—Appropriate tone | 5 |
| Organization—correct format, makes sense | 10 |
| Writing Conventions—less than 2 errors | 10 |
| Creativity/Effort | 10 |
| Bibliography | 5 |

# Appendix B

Name:_____
Date:_____ Period:___ Animal:_____

## Science Research Notes

1. Survival (What adaptations have they made? How do they use camouflage? How do they fight/save themselves?)

2. Physical characteristics (What traits help them adapt and live in their environment?)

3. Growing and developing (What is a baby called? How long do they live?)

4. Diet (How do they feed? Are they predators or prey? What do they eat?)

5. Habitat (Where do they live? Do they live in groups? Climate?)

6. Human interaction (How often do they come in contact with humans? Are they friendly?)

7. Scientific name (What are the Genus and species name?)

8. Interesting facts (List anything that you've found that is interesting, but might not fit into your interview. Include at least five facts.)

9. Bibliography (Include book title, author, publisher, place of publishing, copyright date.)

# Appendix C

Name:_____Period:____Date:_____

Bibliography (alphabetical order)

**You must have at least 1 book reference and 2 website references!**

**For Book References:**

_____. "_____." _____.
Author (last name, First name) Title of Article (in quotes) Title of Book (in italics)

_____: _____, _____.
Publishing Company Place Year

**For Book References:**

_____. "_____." _____.
Author (last name, First name) Title of Article (in quotes) Title of Book (in italics)

_____: _____, _____.
Publishing Company Place Year

**For Book References:**

_____. "_____." _____.
Author (last name, First name) Title of Article (in quotes) Title of Book (in italics)

_____: _____, _____.
Publishing Company Place Year

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**For Website References:**

_____. "_____." _____
Author (last name, first name) Title of Article (in quotes) Website Name (in italics)

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URL Date Accessed

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Author (last name, first name) Title of Article (in quotes) Website Name (in italics)

_____. _____.
URL Date Accessed

**For Website References:**

_____. "_____." _____
Author (last name, first name) Title of Article (in quotes) Website Name (in italics)

_____. _____.
URL Date Accessed